RELEVANCE OF TURNOVER FOR THE PERFORMANCE ANALYSIS OF AN ENTERPRISE

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Abstract
During recent years, the contemporary world is increasingly concerned with performance, achievement and success. Turnover thus represents an indicator of results with a fundamental role in characterizing the efficiency of the activity carried out by a company. At the same time, the analysis of turnover allows providing necessary information in assessing the place in the field in which the enterprise develops its activity, also in characterizing the structure of business enterprises. The present paper aims at illustrating the relevance of turnover for the performance analysis of an enterprise, both by content analysis and also by processing real data regarding a sample of companies.

Key words: *business, enterprise, indicator of results, performance, turnover*

JEL Classification: *M19*

I. THEORETICAL BACKGROUND

The term "performance" is used or discussed increasingly in recent years in various fields, in literature, being also considered a goal by all enterprises. According to the findings in the literature, "in any socioeconomic system, performance becomes, in the current period, a term of reference for both managers and performers, being a form of manifestation of objectives and results obtained. A performing organization can better exploit the opportunities offered by the environment, moves more easily over obstacles that it can be put to it, it satisfies both quantitatively and qualitatively certain segment of social need, gains competitive advantage on the specific market where is acting. (Verboncu I., coord., 2013, p. 122).

The term "performance" was vastly used in a literature. However, "the importance of a precise definition of it was minimized by its uses imprecise abundance" (Verboncu I., coord., 2013, p. 72). The approach of performance involved also in approach certain gaps or shortcomings. Some of these approaches include the following:

- the term is a bearer of an ideology of progress, effort, and continuous improvement;
- Organizational performance shows the individual's ability to progress because of a constant efforts;
- the idea of performance is representative for success, being dependent on successful representation of the different categories of the users of information;
- Performance is the result of an action and represents a subsequent evaluation of the results obtained;
- Performance is an action, a process, an outcome that appears at a moment in time.

Generally, the term „performance" is meant to define "an outstanding achievement in a field", the Explanatory Dictionary of the Romanian language explaining the origin of the French word "performance" with the meaning of "particularly good result obtained in sport, in a practical field of activity " or " the best result given by a machine".

Performance is present in every area and can often be associated with efficiency, effectiveness and competitiveness. From economic point of view, performance at a company level "includes the ability to access resources, allocate and use them optimally in order to cover remuneration sufficient to justify the risk assumed and the interest, for a future sustainable developments path. The performance lies therefore in the efficiency and effectiveness of the resources consumed (effort) and generated results (effect) that would ensure and develop his sphere of interest. "(Petcu, 2003, p. 311). A more precise point of view, however, at the microeconomic level, characterized the performance as a state of competitiveness of the economic entity, reached by a level of productivity and efficiency which ensures a lasting presence in the market (Niculescu and Lavalette, 1999, p. 256) .

On the other hand, the performance can be regarded as being a special result obtained in management, economic, commercial etc. involving efficiency, effectiveness and competitiveness of companies and their procedural and structural behaviors (Verboncu and Zalman, 2005, p. 63) or a tool that demonstrates her ability to progress thanks to constant efforts (Albu and Albu, 2005, p. 30).

Professors Barbulescu and Bâgu (2001, p. 55) state that performance represents the level obtained at the best results. Performance is therefore met in any field, and may be associated with any activity. In the economical-financial field, the concept of "performance" gains different meanings, such as: growth, profitability, productivity, efficiency (Colasse B., 1999, p. 23), or even successful result of an activity or action (Bourguignon A., 1995).

Relating to financial activity, performance has many facets: economical performance, economical and financial performance, financial performance.

Economical performance is considered being "the extent to which a sector can achieve the goals or objectives of companies operating within it. Performance meets multi-dimensional forms, covering aspects of profitability, innovation, product development, quality and growth "(Macmillan Dictionary of Modern Economics, 1999).

Economic and financial performance is defined as "a qualitatively higher level of economic and financial activity carried out by undertakings which are assessed using several indicators, such as turnover, return on capital, labor productivity, return on capital, gross profit and the net annual rate of renewal of fixed capital, effective use of resources etc. "(Bistriceanu, 2001). Financial performance on the other hand, is the relationship between income and expenditure unit, as reported in the income statement. So, performance or nonperformance of an enterprise is reflected in the income statement and is given by the ratio between the income that the achievement will generate future cash flows and expenses that arise by using the resources of the period.

II. DYNAMIC ANALYSIS OF TURNOVER

We selected the turnover as a relevant results indicator for the expression of the level of performance. For this indicators dynamic analysis we selected 8 companies which are representative in Caras - Severin, following their evolution over four years (2010-2013), for which were calculated as follows:

- Absolute deviations with fixed-basis and chain basis

$\Delta CA_{BF} = CA_n - CA_0$

$\Delta CA_{BL} = CA_n - CA_{n-1}$

- indices with fixed basis and chain basis

$I_{CA} = CA_n / CA_0 * 100$

$I_{CA} = CA_n / CA_{n-1} * 100$

- Growth rates along the selected period

$R_{CA} = CA_n / CA_0 * 100 - 100$

$R_{CA} = CA_n / CA_{n-1} * 100 - 100$

Selected entities occupy the first eight positions in the Top Companies in Caras Severin, in the field of manufacturing food products. Data available on the website of the Ministry of Finance indicate the following situation on the 8 companies:

Table no. 1 – The turnover of companies

	2010	2011	2012	2013
1	2.438.537	2.972.476	3.000.242	4.353.830
2	5.315.713	5.364.529	4.993.114	4.730.891
3	8.546.415	9.193.297	11.838.809	12.119.108
4	-	1.189.408	3.040.225	4.861.746
5	8.060.340	6.903.915	6.709.876	7.575.051
6	27.835.217	25.880.044	26.988.843	34.134.403
7	18.586.539	19.826.641	21.381.376	22.660.023
8	617.372	391.611	435.840	351.776

Source: Balance sheets available on the website of the Ministry of Finance

After realizing the calculations for determining the absolute deviations, the indices and the growth rates, there were obtained the following results:

1. the absolute deviations with fixed basis and chain-basis

Table no. 2 – the absolute deviations

	$\Delta T_{2011/2010}$	$\Delta T_{2012/2010}$	$\Delta T_{2013/2010}$	$\Delta T_{2011/2010}$	$\Delta T_{2012/2011}$	$\Delta T_{2013/2012}$
	ΔT_{FB}			ΔT_{CB}		
1	533.939	561.705	1.915.293	561.705	27.766	1.353.588
2	48.816	-322.599	-584.822	48.816	-371.415	-262.223
3	646.882	3.292.394	3.572.693	646.882	2.645.512	280.299
4	-	1.850.817	3.672.338	-	1.850.817	1.821.521
5	-1.156.425	-1.350.464	-485.289	-1.156.425	-194.039	865.175
6	-1.955.173	-846.374	6.299.186	-1.955.173	1.108.799	7.145.560
7	1.240.102	2.794.837	4.073.484	1.240.102	1.554.735	1.278.647
8	-225.761	-181.532	-265.596	-225.761	44.229	-84.064

Source: calculations made by authors

We find that absolute deviations calculated for the previous established timeframe varies from one enterprise to another. Some highlight an increase in turnover over time, others, on the contrary, a significant decrease.

Comparing the values at the end of the period with those of the basis year, the most significant increase is recorded in the case of the sixth enterprises, while the weakest progress is recorded in the second entity.

2. Indices with fixed and chain basis

Table no. 3 – indices with fixed and chain basis

	$I T_{2011/2010}$	$I T_{2012/2010}$	$I T_{2013/2010}$	$I T_{2011/2010}$	$I T_{2012/2011}$	$I T_{2013/2012}$
	$I T_{FB}$			$I T_{CB}$		
1	121,89%	123,03%	178,54%	121,89%	100,93%	145,12%
2	100,92%	93,93%	89%	100,92%	93,08%	94,75%
3	107,57%	138,52%	141,80%	107,57%	128,78%	102,37%
4	-	255,61%	408,75%	-	255,61%	159,91%
5	85,65%	83,25%	93,98%	85,65%	97,19%	112,89%
6	92,98%	96,96%	122,63%	92,98%	104,28%	126,48%
7	106,67%	115,04%	121,92%	106,67%	107,84%	105,98%
8	63,43%	70,6%	56,98%	63,43%	111,29%	80,71%

Source: calculations made by authors

3. Growth rate

Table no. 4 – growth rates for the selected enterprises

	$R_{2011/2010}$	$R_{2012/2010}$	$R_{2013/2010}$	$R_{2011/2010}$	$R_{2012/2011}$	$R_{2013/2012}$
	ΔR_{BF}			R_{BL}		
1	21,89%	23,03%	78,54%	21,89%	0,93%	45,12%
2	0,92%	-6,7%	-11%	0,92%	-6,92%	-5,25
3	7,57%	38,52%	41,80%	7,57%	28,78%	2,37%
4	-	155,61%	308,75%	-	155,61%	59,91%
5	-14,35%	-16,75%	-6,02%	-14,35%	-2,81%	12,89%
6	-7,02%	-3,04%	22,63%	-7,02%	4,28%	26,48%
7	6,67%	15,04%	21,92%	6,67%	7,84%	5,98%
8	36,57%	29,41%	43,02%	36,57%	11,29%	19,29%

Source: calculations made by authors

III. CASE STUDY

The case study elaborated consists in determining the bond between three indicators, namely the profitability of the enterprise, the turnover and the labor productivity, respectively. For this, we have selected a number of 20 enterprises in the city of Resita, for which we illustrated the values of the above mentioned indicators in the table bellow:

Table No 5
The profitability, turnover and labor productivity for the sample of companies

obs	RETURN	TURNOVER	W_LPROD
1	150405	4353830	94648.5

2	612	4730891	84480.2
3	270775	2973185	228707
4	937034	12119108	216413
5	337800	2833723	97714.6
6	776360	4861746	303859
7	1481	762362	42353.4
8	44078	7575051	145674
9	1137530	34134403	310313
10	132682	337969	112656
11	10380	790650	131775
12	46605	126432	63216
13	173285	22660023	276342
14	20502	121382	60691
15	4218	1116745	1116745
16	351776	15757296	1313108
17	4532	246690	61672.5
18	279023	79328305	1101782
19	80869	1388173	198310
20	189871	6079067	506589

(Source: Balance sheets published on the official web-platform of the Ministry of Finance)

The data was selected from the online web-platform of the Ministry of Finance (for the first two indicators), while the values representing the labor productivity were calculated individually by the authors. Using the EViews 7 software, we tried to determine the nature of linkage between the three indicators in the case of the 20 companies selected. All of these are active at present and obtained a positive return according to the balance sheet available for the year 2013. It is also important to mention that all of them are enterprises that operate in the field of food production or processing.

We further analyzed through Eviews 7, the influence of the labor productivity and turnover upon the result obtained by an enterprise. The enterprises selected were not only SME's but also big enterprises, with more than 250 employees.

The variables considered were the thus the turnover and the labor productivity as independent variables and also the variable profit, the latter being a dependent variable.

The relationship between the three variables can be illustrated by the following regression line:

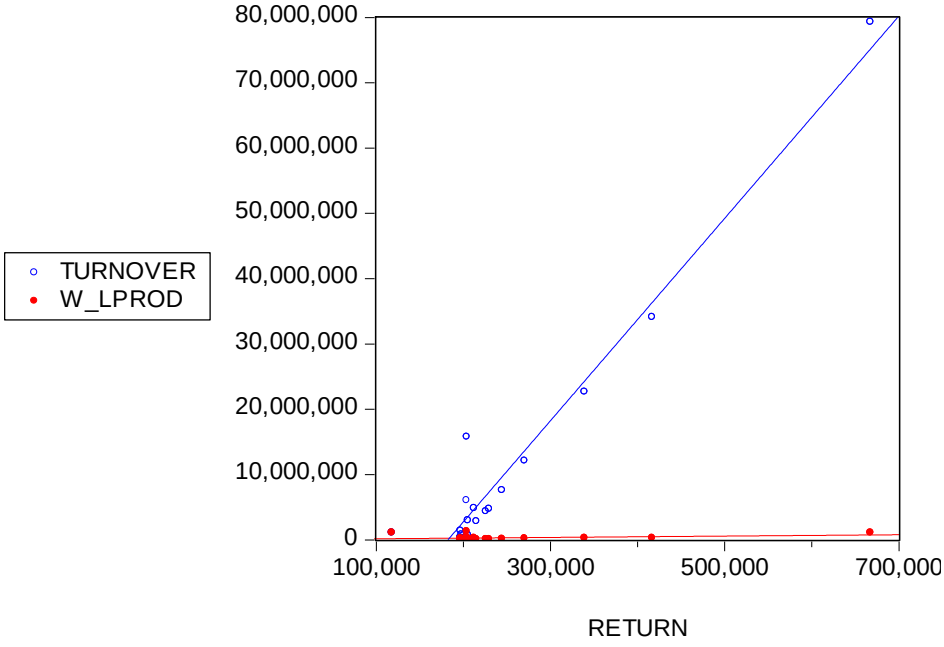

Figure no 1 – linear regression for the above listed variables
(Source: Eviews 7 processing data provided by the online web-platform of the Ministry of Finance)

Table No 6
The relationship between profitability, turnover and labor productivity for the sample of companies

Dependent Variable: RETURN
Method: Least Squares
Date: 04/12/15 Time: 22:50
Sample: 1 20
Included observations: 20
RETURN=C(1)+C(2)*TURNOVER+C(3)*W_LPROD

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	203661.9	96337.71	2.114041	0.0496
C(2)	0.007006	0.004741	1.477831	0.1577
C(3)	-0.083609	0.226644	-0.368900	0.7168

R-squared	0.124228	Mean dependent var	247490.9
Adjusted R-squared	0.021196	S.D. dependent var	328974.8
S.E. of regression	325469.6	Akaike info criterion	28.36141
Sum squared resid	1.80E+12	Schwarz criterion	28.51077
Log likelihood	-280.6141	Hannan-Quinn criter.	28.39056
F-statistic	1.205727	Durbin-Watson stat	1.857817
Prob(F-statistic)	0.323834		

(Source: Eviews 7 processing data provided by the online web-platform of the Ministry of Finance)

According to data obtained in Eviews, the value of the Student test (t-statistic) to C (1) is 2.114041, C(2) is 1.477831 and C(3) is -0,368900. Following these calculations, and based on the values of the coefficient, the equation will be:

RETURN=203661.9 + 0.007006*turnover + (-0.083609)*W_LPROD

We observe that the value for C(2) and C(3) respectively are different. While the first one is higher than 0, indicating a direct relationship between the turnover and profitabilitaty, this linkage is still a weak one, the coefficient tending to 0. At the same time, the C(3) coefficient gains a negative value, of -0,083609, which indicates a weak and indirect linkage between the labor productivity and profitability.

The tabular value of the standard variable (T critical) is determined from the table of the Student distribution, according to v=n-1 degrees of freedom and the probability $\alpha/2$. In our case, v=20-1=19 degrees of freedom and probability 0.05/2=0.025. According to the Student repartition quintiles, the tabular tcritic value corresponding to the error 0.025 of degrees and 19 degrees of freedom is 2,093< tc (1), 2,093 > tc (2), tc(3). The three parameters, c (1), c(2) and c (3) are significantly different from 0, the model is therefore statistically correct, rejecting the null hypothesis.

According to available data, the value of Durbin Watson test (Durbin Watson stat) is 1.857817. We determine two tabular values, one lower and one upper, depending on the level of significance of the test α (0,05), the number of observations (20) and the number of k factorial variables (in our case 2, since this a multiple factor regression model). Values are tabulated dL=1.10 and du=1,54. In this case, d=1.857817 >dL and >du, which means that the random variable autocorrelation hypothesis is based on indecision, being suggested the acceptance of positive correlation.

According to data obtained in Eviews, Fisher test value (Fstatistic) is Fc=1.205727. Table or critical value chosen from the table distribution Fisher - Snedecor according to the levels of significance (0.05) and the number of degrees of freedom (19) is Ft = 4.38. By comparing the calculated value Fc to the tabular value Ft results that Fc< Ft, and the null hypothesis is rejected with probability $p = 1 - \alpha = 0.95\%$, which means that the model needs to be revised in order to draw a pertinent conclusion regarding the influence of a variable upon the other.

R-squared regression coefficient in calculations acquires the value of 0.124228, value> 0, demonstrating a direct but weak linkage.

We thus consider the above obtained equation as adaptable to other samples of enterprises, through the following changes

$$RETURN = \alpha + \beta^* TURNOVER + \gamma^* w\_LPROD$$

Table No 7

Coefficient Confidence Intervals
Date: 04/20/15 Time: 00:01
Sample: 1 20
Included observations: 20

Variable	Coefficient	90% CI		95% CI		99% CI	
		Low	High	Low	High	Low	High
C(1)	203661.9	36072.18	371251.7	407.1090	406916.7	-75546.98	482870.8
C(2)	0.007006	-0.001241	0.015253	-0.002996	0.017008	-0.006734	0.020746
C(3)	-0.083609	-0.477881	0.310663	-0.561787	0.394569	-0.740477	0.573259

(Source: Eviews 7 processing data provided by the online web-platform of the Ministry of Finance)

IV. CONCLUSIONS

Findings regarding the size of a business or a company and its modification in time are necessary in attracting and securing the resources indispensable to for achieving the objectives and goals proposed. To fully analyze a company's activity, any analysis of an indicator must include a description of its dynamics. The analysis of the turnover in time can be achieved using conventional statistical models.

Turnover is fundamental indicator against which to appreciate a company's ability to achieve current income from commercial operations. In concrete terms, it is part of the economic-financial results indicators, helping to diagnose and economic evaluation of the company, estimating efficiency management practices

V. REFERENCES

1. Albu, N., Albu, C., *Soluţii practice de eficientizare a activităţilor şi de creştere a performanţei organizaţionale*, Editura CECCAR, Bucureşti, 2005
2. Bourguignon A., *Peut-on definir la performance?*, Revue Francaise de Comptabilite, nr. 269, 1995
3. Bistriceanu Gheorghe D., *Lexicon de finanţe, bănci, asigurări*, vol. III, Editura Economică, Bucureşti, 2001
4. Bărbulescu, C., Bâgu, C., *Managementul producţiei, vol. II – Politici manageriale de producţie*, Editura Economică, Bucureşti, 2001
5. Buglea Alexandru, Lala Popa Ion, *Analiză economico – financiară*, Timişoara: Editura Mirton, 2009
6. Colasse B., *L'analyse financiere d'entreprise,* La Decouverte, Paris, 1999
7. Coteanu Ion, Seche Luiza, Seche Mircea, coordonatori, Academia Română, Institutul de Lingvistică „Iorgu Iordan", *Dicţionarul explicativ al limbii române (DEX)*, Editura Univers Enciclopedic, Bucureşti, 1998
8. Niculescu, M., Lavalette, G., *Strategii de creştere*, Editura Economică, Bucureşti, 1999
9. Petcu Monica, *Analiză economico-financiară a întreprinderii. Probleme, abordări, metode, aplicaţii,* Editura Economică, Bucureşti, 2003
10. Verboncu, I., (coord) *Management. Eficinţă. Eficacitate. Performanţe*, Editura Universitară, Bucureşti, 2013
11. Verboncu, I., Zalman M., *Management şi performanţe*, Editura Universitară, Bucureşti, 2005
12. xxx - *Dicţionar Explicativ al Limbii Române*, Editura Univers Enciclopedic, Bucureşti,1998
13. Colectiv de autori, *Dicţionar macmillan de Economie Modernă,* Editura CODECS, Bucureşti, 1999